

## LIST OF PUBLICATIONS

### Manuscripts in Preparation

E. Farahani, B. Savan, K. Trinh, A. Loader, L. Gelinas, I. Stefanovic, Z. Matson. *Taking Advantage of Theories in Behavioural Economics in Modifying the Theory of Planned Behaviour to Trigger Conservation Action*, to be submitted to J. Env. Behaviour.

E. Farahani, K. Trinh, A. Adams, B. Savan,. *Temporal Design and Test of Feedback Interfaces*, to be submitted to Energy and Environment.

E. Farahani, P. Park, N. McFarlane, T.G. Shepherd, R. Vieth, S. Malik. *Impact of Climate-Induced UV Radiation Changes on Human Health*, to be submitted to Can. J. Pub. Health.

E. Farahani, N. McFarlane, T.G. Shepherd. *Have We Forgotten about Ozone in the Climate Change Era? Maybe Not!* A popular article prepared for in-flight magazine of Air North.

E. Farahani, K. Strong, R.L. Mittermeier, C. McLandress, H. Fast, T.G. Shepherd, M.P. Chipperfield. *Springtime Arctic Ground-based Spectroscopy of O<sub>3</sub> and Related Trace Gases at Eureka, Canada: Part II - Ground-based Observations of Stratospheric Species during Spring 1999 to 2003 at Eureka, Canada and Comparisons with Results from Three-dimensional Models*. Atmos. Chem. Phys.

### Refereed Publications

E. Farahani, N. McFarlane, R.L. Batchelor, R.L. Collins, V.L. Harvey, N.J. Livesey, G.L. Manney, M.L. Santee, K. Strong, and K.A. Walker. *Features of the Arctic Stratosphere During IPY*. SPARC Newslett., pp. 6-13, 33, 2009.

E. Farahani, K. Strong, R. Mittermeier, H. Fast, M. Van Roozendaal, and C. Fayt. *Springtime Arctic Ground-based Spectroscopy of O<sub>3</sub> and Related Trace Gases at Eureka, Canada: Part I - Evaluation of the Analysis Method and Comparison with Infrared Measurements*. J. Atmos. Measur. Tech. Disc., 2009.

E. Farahani, H. Fast, R.L. Mittermeier, Y. Makino, K. Strong, C. McLandress, T.G. Shepherd, M.P. Chipperfield, J.W. Hannigan, M.T. Coffey, S. Mikuteit, F. Hase, T. Blumenstock, U. Raffalski. *Nitric Acid Measurements at Eureka, Thule and Kiruna Obtained in Winter 2001/2002 Using Solar and Lunar Fourier Transform Infrared Absorption Spectroscopy and Comparison with Results from Three-dimensional Models*. J. Geophys. Res., 112, 10.1029/2006JD007096, 2007.

S.M.L. Melo, E. Farahani, K. Strong, M.R. Bassford, and K.E. Preston. *NO<sub>2</sub> Vertical Profiles Retrieved from Ground-Based Measurements during Spring 1999 in the Canadian Arctic*. Advances in Space Research, pp. 786-792, 34(4), 2004.

### Conference Presentations including Papers in Proceedings and Non-refereed Journals

E. Farahani, *Impact of Climate-Induced UV Radiation Changes on Human Health*, Presentation at the CSPARC meeting, Faculty Club, Toronto, ON, Canada, December 7, 2010.

N. McFarlane, E. Farahani, D. Pendlebury, *SPARC-IPY and Beyond*, SPARC Newslett., pp. 5, 33, 2009.

B. Savan, E. Farahani, Z. Matson, *The Study of Energy Conservation: Integrating Engineering and the Social Sciences*, Presentation at the Behavior, Energy and Climate Change Conference, Sacramento, CA, USA, November 14-17, 2010.

E. Farahani, K. Strong, R.L. Mittermeier, H. Fast, T.G. Shepherd, *Springtime Arctic Measurements of Trace Gases at Eureka, Canada: Statistical Comparisons with Results from Atmospheric Models*, Presentation at the 44th Annual CMOS Congress, 3rd Joint CMOS-CGU Congress, Ottawa, ON, Canada, May 31-June 4, 2010.

E. Farahani, *The Study of Energy Conservation: Integrating Engineering and the Social Sciences*, Public presentation at the Earth Day at the Center for Environment, Toronto, ON, Canada, April 22, 2010.

E. Farahani, B. Savan, *Turning Vulnerability to Strength: Building Capacity for Sustainability Science Among Outstanding African Youth*, Presentation at the Perimeter Institute, Waterloo, ON, Canada, April 8, 2010.

E. Farahani, *Our Reminder after Copenhagen: Potential Risks, Possible Solutions, Probable Actions*, Public presentation at the Lunch & Learn at the Center for Environment, Toronto, ON, Canada, March 28, 2010.

E. Farahani, N. McFarlane, T.G. Shepherd, *Early Results of the SPARC- IPY Project*, NSERC meeting - The IPY Canada Early Results, Ottawa, ON, Canada, February 16-18, 2010.

E. Farahani, *The Earth's Balance Sheet – Numbers, Not Adjectives!* Public presentation the Royal Bank of Canada Club, Toronto, ON, Canada, November 25, 2009.

E. Farahani, *Climate Change Is What Happens While We Are Busy Making Other Plans!* Public presentation at the Club of Professional Engineers, Toronto, ON, Canada, October 15, 2009.

E. Farahani, N. McFarlane, R.L. Batchelor, R.L. Collins, V.L. Harvey, N.J. Livesey, G.L. Manney, M.L. Santee, K. Strong and K.A. Walker. Features of the Arctic stratosphere during IPY. MOCA-09, Montreal, QC, Canada, July 19-29, 2009.

E. Farahani, *Climate Change Is What Happens While We Are Busy Making Other Plans!* Public presentation at the Schulich School of Business, Toronto, ON, Canada, January 27, 2009.

E. Farahani and N. McFarlane. *Above the Poles: Ozone Research and Polar Vortex*. WCRP News, e-zine Number 12, December 24, 2008.

E. Farahani, S. Polavarapu, T.G. Shepherd and N. McFarlane. *The Structure and Evolution of the Polar Stratosphere and Mesosphere during IPY – Results from SPARC-IPY*. Presentation at the Arctic Change 2008, Quebec City, QC, Canada, December 9-12, 2008.

E. Farahani, R. Ravishankara, and V. Ryabinin. *On Feasibility of a SPARC Polar Initiative*. Presentation at the 16<sup>th</sup> SPARC Scientific Steering Group Meeting, Toronto, ON, Canada, November 10-13, 2008.

E. Farahani, R. Collins, G. Manney, N. McFarlane, and T.G. Shepherd. *The Structure & Evolution of the Polar Stratosphere & Mesosphere during IPY – SPARC-IPY: Early Results*. Presentation at the SPARC 4<sup>th</sup> General Assembly, Bologna, Italy, August 30-September 6, 2008.

E. Farahani, N. McFarlane, and T.G. Shepherd. *SPARC-IPY (Activity No 217), The Structure and Evolution of the Polar Stratosphere and Mesosphere and Links to the Troposphere during IPY*. Presentation at the SPARC 4<sup>th</sup> General Assembly, Bologna, Italy, August 30-September 6, 2008.

E. Farahani, S. Polavarapu, T.G. Shepherd and N. McFarlane. *SPARC IPY: Stratospheric Processes and Their Role in Climate during the International Polar Year*. Presentation at the CMOS 2008 Congress, Kelowna, BC, Canada, May 25-29, 2008.

E. Farahani, R. Collins, G. Manney, N. McFarlane, and T.G. Shepherd. *The Structure and Evolution of the Polar Stratosphere and Mesosphere and Links to the Troposphere during IPY: SPARC-IPY Data Assimilation Component & Pan-Arctic Study of the Coupled Circulation*. Presentation at the CMOS Congress 2008, Kelowna, BC Canada, May 25-29, 2008.

E. Farahani, *Nothing Exists Except Climate Change & Ozone Depletion, Everything Else Is Opinion!* Public presentation at the Environics Group, Toronto, ON, Canada, April 23, 2008.

S. Polavarapu, E. Farahani, G. Manney, N. McFarlane, T.G. Shepherd. *Report on the Joint SPARC Workshop on Data Assimilation and International Polar Year (IPY), 4-7 September 2007, Toronto, Canada*. SPARC Newsletter n30, pp. 27-33, 2008.

E. Farahani, K. Strong, and K. Walker. *What's Happening to Our Climate?* Public presentation at the Delta Alternative School Sr., Toronto, ON, Canada March 26, 2008.

E. Farahani, S. Polavarapu, T.G. Shepherd and N. McFarlane. *SPARC IPY: Stratospheric Processes and Their Role in Climate during International Polar Year*. Poster at the NSERC Researchers Workshop, Gatineau, QC, Canada, October 2007.

E. Farahani, *SPARC-IPY Workshop Overview*. Presentation at the 15<sup>th</sup> SPARC Scientific Steering Group Meeting, Bremen, Germany, September 18-21, 2007.

E. Farahani and N. McFarlane. *SPARC-IPY Overview*. Presentation at the First International POLARCAT Science Planning Meeting, Paris, France, June 1-5, 2007.

E. Farahani, H. Fast, R.L. Mittermeier, Y. Makino, K. Strong, C. McLandress, T.G. Shepherd, M.P. Chipperfield, J.W. Hannigan, M.T. Coffey, S. Mikuteit, F. Hase, T. Blumenstock, U. Raffalski. *Lunar and solar FTIR Nitric Acid Measurements at Eureka in Winter 2001/2002: Comparisons with Observations at Thule and Kiruna and with CMAM and SLIMCAT Model Calculations*. Presentation at the 40th Annual Canadian Meteorological and Oceanographic Society, Toronto, ON, Canada, May 29-June 1, 2006.

E. Farahani, K. Strong, H. Fast, R.L. Mittermeier, C. McLandress, T.G. Shepherd, M.P. Chipperfield. *Four Years of Stratospheric Composition Measurements in the Canadian High Arctic and Comparison with Atmospheric Models Chemical Fields*. Presentation at the 40th Annual Canadian Meteorological and Oceanographic Society, Toronto, ON, Canada, May 29-June 1, 2006.

E. Farahani, H. Fast, R.L. Mittermeier, Y. Makino, K. Strong, C. McLandress, T.G. Shepherd, M.P. Chipperfield, J.W. Hannigan, M.T. Coffey, S. Mikuteit, F. Hase, T. Blumenstock, U. Raffalski. *Lunar and solar FTIR Nitric Acid Measurements at Eureka in Winter 2001/2002: Comparisons with Observations at Thule and Kiruna and with CMAM and SLIMCAT Model Calculations*. Presentation at the European Geosciences Union General Assembly 2006 Vienna, Austria, April 2-7, 2006. Proceedings of the European Geosciences Union, pp. 952-953, 2006.

E. Farahani, *Arctic Stratospheric Adventure at Eureka: Four Years of Measurements and Model Comparison*. Presentation at the Arctic Working Group Mini-Symposium, Toronto, ON, Canada, March 31, 2006.

E. Farahani, K. Strong. *Arctic Nitric Acid Measurements and Comparisons with the CMAM and SLIMCAT Models*. Presentation at the 13th Annual MAM/GCC Workshop, Toronto, ON, Canada, December 12-13, 2006.

E. Farahani, K. Strong, R.L. Mittermeier, H. Fast. *Comparison of Eureka FTIR Measurements with the CMAM and SLIMCAT Model*. Presentation at the Network for the Detection of Stratospheric Change (NDSC) Infrared Working Group, Toronto, ON, Canada, June 13-15, 2005.

E. Farahani, K. Strong, R.L. Mittermeier, H. Fast, C. McLandress, T.G. Shepherd, and M.P. Chipperfield. *Comparison of Stratospheric Measurements in the Canadian High Arctic with the CMAM and SLIMCAT Models*. Presentation at the Canadian Space Agency Fifth Atmospheric Environment Workshop, Banff, AB, Canada, May 5-7, 2005.

S.M.L. Melo, K. Strong, A.C. Fraser, E. Farahani, C.T. McElroy, C.A. McLinden, J. Davies, C. Haley, C. Boone, F. Goutail, C. von Savigny, and C. Sioris. *Using MANTRA Balloon Measurements for Satellite Validation: First Results*. Presentation at the American Geophysical Union Fall Meeting, San Francisco, CA, USA, December 13-17, 2004.

K. Strong, S.M.L. Melo, E. Farahani, C. McLandress, C. Nowlan, T.G. Shepherd, H. Wu, C.T. McElroy, C.A. McLinden, J. Davies, F. Goutail, P. Fogal, and R. Blatherwick. *The Mid-Latitude Summertime Stratosphere: A Comparison Between MANTRA Balloon Campaign Measurements and the Canadian Middle Atmosphere Model*. Presentation to the SPARC 3<sup>rd</sup> General Assembly, Victoria, BC, Canada, August 1-6, 2004.

S.M.L. Melo, C. McLandress, H. Wu, E. Farahani, K. Strong, T.G. Shepherd, C.R. Nowlan, R. Saari, C.T. McElroy, C.A. McLinden, J. Davies, C. Haley, C. von Savigny, C. Sioris, J.-C. Lambert, and F. Goutail. *NO<sub>2</sub> Measurements during the MANTRA 2002 Balloon Campaign: Comparisons with Satellite Measurements, Climatology and the Canadian Middle Atmosphere Model*. Presentation at the COSPAR, Paris, France, July 18-25, 2004.

E. Farahani, K. Strong, J.M. Walker, C. McLandress, D. Sankey, T.G. Shepherd, R.L. Mittermeier, H. Fast, M.P. Chipperfield, A. Richter, and P.F. Fogal. *Comparison of Stratospheric Measurements in the Canadian High Arctic with the CMAM and SLIMCAT Models: 1999 – 2000*. Presentation at the Quadrennial Ozone Symposium, Kos, Greece, June 1-8, 2004. Proceedings of the Quadrennial Ozone Symposium, pp. 952-953, 2004.

E. Farahani, N. D'Souza, S. Mirza, K. Mowat, and S. Williams. *Creating through Reuse: A Framework Study, Community Based Environmental Research*. Public presentation at City Hall, Toronto, ON, Canada, April 7, 2004.

S.M.L. Melo, C. McLandress, C.R. Nowlan, E. Farahani, T.G. Shepherd, K. Strong, H. Wu, C.T. McElroy, C.R. McLinden, J. Davies, F. Goutail, P. Fogal and R. Blatherwick. *Comparisons of the MANTRA Balloon Campaign Measurements of Stratospheric Constituents with the Canadian Middle Atmospheric Model*. Presentation at the American Geophysical Union Spring Meeting, Montreal, QC, Canada, May 17-21, 2004.

E. Farahani, K. Strong, J.M. Walker, A.C. Fraser, C. McLandress, D. Sankey, T.G. Shepherd, R.L. Mittermeier, H. Fast, M.P. Chipperfield, A. Richter, and P.F. Fogal. *Comparison of Stratospheric Measurements in the Canadian High Arctic during a Warm (1999) and a Cold Winter (2000) with Atmospheric Models*. Presentation to the Canadian Association of Physicists, Division of Atmospheric and Space Physics 2004 Winter Workshop, London, ON, Canada, February 19-20, 2004.

H. Wu, C.R. Nowlan, K. Strong, E. Farahani, S.M.L. Melo, J.R. Drummond, C.T. McElroy, C. Midwinter, C.R. McLinden, R. Hall, D. Barton, J. Davies, A.Ogyu, and F. Goutail. *Measurements of Stratospheric O<sub>3</sub> and NO<sub>2</sub> Vertical Profiles and J-values of O<sub>3</sub> → O(<sup>1</sup>D), NO<sub>2</sub> → NO Using Photodiode*

*Array Grating Spectrometers during MANTRA Balloon Campaigns*. Presentation at the Canadian Association of Physicists, Division of Atmospheric and Space Physics Winter Workshop, London, ON, Canada, February 19-20, 2004.

S.M.L. Melo, C. McLandress, F. Bender, H. Wu, E. Farahani, K. Strong, T.G. Shepherd, C.T. McElroy, J. Davies, C. Haley, P. Fogal, R. Blatherwick, J.-C. Lambert, and F. Goutail. *Mid-latitude Stratospheric Nitrogen During Summer Time: Comparison of Measurements from MANTRA Balloon Campaigns, OSIRIS Satellite Measurements, Climatology, and the Canadian Middle Atmosphere Model*. Presentation to the Canadian Association of Physicists, Division of Atmospheric and Space Physics Winter Workshop, London, ON, Canada, February 19-20, 2004.

K. Strong, D. Barton, P. Bernath, S. Brown, J. Davies, J.R. Drummond, H. Fast, E. Farahani, P.F. Fogal, F. Goutail, J.-P. Goutail, R. Hall, J.C. McConnell, C.T. McElroy, S.M.L. Melo, C. Midwinter, F. Murcray, C.R. Nowlan, A. Ogyu, J. Olson, B.M. Quine, Y. Rochon, T.G. Shepherd, B.H. Solheim, D. Sommerfeldt, R. Sullivan, M. Tingley, M. Toohey, K. Walker, D.I. Wardle, H. Wu, D. Wunch, D. Tarasick, and A. Ullberg. *The MANTRA 2002 Balloon Flight from Vanscoy, Canada*. Presentation at the ENVISAT Validation Workshop, Frascati, Italy, December 9-13, 2002. Proceedings of the ENVISAT Validation Workshop, ESA Special Publication SP-531, 2003.

E. Farahani, K. Strong, S.M.L. Melo, D. Sankey, C. McLandress, T.G. Shepherd, F. Bender, R.L. Mittermeier, H. Fast, and J.-C. Lambert. *Measurements of Stratospheric Composition Using a UV-Visible Spectrometer: 1998 – 2003*. Presentation to the 2nd International DOAS Workshop, Hidelberg, Germany, September 16-19, 2003.

A.C. Fraser, E. Farahani, S.M.L. Melo, and K. Strong, *Measurements of Ozone and NO<sub>2</sub> Using a Ground-Based UV-Visible Grating Spectrometer*. Presentation at 2003 Canadian Association of Physicists (CAP) Congress, Charlottetown, PEI, Canada, June 8-11, 2003.

S.M.L. Melo, F. Bender, E. Farahani, C. McLandress, C.R. Nowlan, T.G. Shepherd, K. Strong, H. Wu, C.T. McElroy, J. Davies, J.-C. Lambert, F. Goutail, P. Fogal and R. Blatherwick. *Mid-Latitude Stratospheric Nitrogen during Summer Time: Comparison of Measurements from MANTRA Balloon Campaigns, Climatology, and the Canadian Middle Atmosphere Model*. Poster at Gordon Research Conference on Solar Radiation & Climate, New Hampshire, USA, July 13-18, 2003.

E. Farahani, D. Sankey, K. Strong, T.G. Shepherd, R.L. Mittermeier, and H. Fast. *Comparison between Chemical Species Measured in the High Arctic during Spring 1999 and 2000 and the Canadian Middle Atmosphere Model*. Presentation to the 37th Congress of the Canadian Meteorological and Oceanographic Society, Ottawa, ON, Canada, June 2-5, 2003.

S.M.L. Melo, C. McLandress, H. Wu, C.R. Nowlan, K. Strong, T.G. Shepherd, E. Farahani, C.T. McElroy, J.-C. Lambert, and F. Goutail. *Mid-Latitude Stratospheric NO<sub>2</sub> during Summer Time: Comparison of Measurements from Three MANTRA Balloon Campaigns, Climatology, and the Canadian Middle Atmosphere Model*. Presentation to the 37<sup>th</sup> Congress of the Canadian Meteorological and Oceanographic Society, Ottawa, ON, Canada, June 2-5, 2003.

E. Farahani, K. Strong, S.M.L. Melo, C.R. Nowlan, J.R. Drummond, C.A. McLinden, J. Davies, C.T. McElroy, and F. Goutail. *Ground-Based Measurements of Ozone and NO<sub>2</sub> at Vanscoy, SK during the MANTRA 2000 and 2002 Campaigns*. Presentation at the Optical Society of America Topical Meeting on Optical Remote Sensing of the Atmosphere, Quebec City, QC, Canada, February 3-6, 2003. Optical Remote Sensing, OSA Technical Digest, Optical Society of America, Washington D.C., pp. 102-105, 2003.

S.M.L. Melo, E. Farahani, K. Strong, M.R. Bassford, and K.E. Preston. *NO<sub>2</sub> Vertical Profiles Retrieved from Ground-Based Measurements during Spring 1999 in the Canadian Arctic*. Presentation at the 34<sup>th</sup> COSPAR Scientific Assembly, Houston, TX, USA, October 10-19, 2002.

E. Farahani, S.M.L. Melo, K. Strong, M.R. Bassford, and C.A. McLinden. *Measurements of Stratospheric Composition in the Canadian Arctic during Spring 1999-2002 Using a UV-Visible Spectrometer*. Presentation to the International Geoscience and Remote Sensing Symposium (IGARSS), Toronto, Canada, June 24-28, 2002. Proceedings of IGARSS 2002, IEEE, Piscataway, NJ, USA, pp. 51-53, 2002.

S.M.L. Melo, K. Strong, E. Farahani, M.R. Bassford, K.E. Preston, C.T. McElroy, E.V. Rozanov, T. Egorova, and C.R. Nowlan. *Retrieval of Stratospheric NO<sub>2</sub> Vertical Profiles from Ground-Based Measurements at Vanscoy, Saskatchewan*. Presentation at the International Geoscience and Remote Sensing Symposium (IGARSS), Toronto, Canada, June 24-28, 2002. Proceedings of IGARSS 2002, IEEE, Piscataway, NJ, USA, pp. 54-56, 2002.

E. Farahani, S.M.L. Melo, K. Strong, M.R. Bassford, and C.A. McLinden. *Ground-Based Measurements of Ozone and NO<sub>2</sub> at Eureka, Canada (80°N) during Arctic Spring 1999-2001*. Presentation at the Canadian Space Agency's 4<sup>th</sup> Atmospheric Environment Workshop, London, ON, Canada, May 15-17, 2002.

S.M.L. Melo, K. Strong, E. Farahani, M.R. Bassford, K.E. Preston, C.T. McElroy, E.V. Rozanov, and T. Egorova. *Retrieval of Stratospheric NO<sub>2</sub> Vertical Profiles from Ground-Based Measurements at Vanscoy, Saskatchewan*. Presentation at the Canadian Space Agency's 4<sup>th</sup> Atmospheric Environment Workshop, London, ON, Canada, May 15-17, 2002.

E. Farahani, S.M.L. Melo, K. Strong, M.R. Bassford, and C.A. McLinden. *Ground-Based Measurements of Ozone and NO<sub>2</sub> at Eureka, Canada (80°N) during Arctic Spring 1999-2001*. Presentation at the European Geophysical Society XXVII General Assembly, Nice, France, April 22-26, 2002.

S.M.L. Melo, E. Farahani, K. Strong, K.E. Preston, D. Chartrand, C.T. McElroy, C.A. McLinden, and M.R. Bassford. *Comparison of Stratospheric NO<sub>2</sub> Vertical Distributions Retrieved from Ground-Based Measurements with a Profile Observed from a Balloon during the MANTRA Campaign*. Presentation to the IAMAS Congress, Innsbruck, Austria, July 10-18, 2001.

B.M. Quine, K. Strong, J.R. Drummond, J.C. McConnell, C.T. McElroy, B. Solheim, D. Sommerfeldt, K. Adcock, J. Anstey, M.R. Bassford, A. Bennett, S. Brown, D. Barton, P. Chen, J. Davies, E. Farahani, R. Hall, J. Kaminski, C. Midwinter, C.R. Nowlan, Y. Rochon, A. Ullberg, S. Werchohl, and D. Wunch. *MANTRA 2000: Middle Atmosphere Nitrogen Trend Assessment: The 2000 Balloon Mission*. Presentation to the Canadian Association of Physicists, Division of Atmospheric and Space Physics 2001 Winter Workshop, Saskatoon, SK, Canada, February 23-24, 2001.

E. Farahani, M.R. Bassford, K. Strong, and S. Kim, *Ground-Based Measurements of the Arctic Stratosphere*. Presentation at the 6<sup>th</sup> National Student Conference on Northern Studies, Quebec City, QC, Canada, May 6-7, 2000.

K. Strong, M.R. Bassford, J.R. Drummond, E. Farahani, C. Heald, B. Tolton, and Y. Zhao. *The University of Toronto Atmospheric Observatory - TAO*. Presentation at the CRESTech Innovation Network '99, Toronto, ON, Canada, September 29, 1999.